

In the Claims:

Please add claims 40-47 and replace the pending claims with the following:

1. (Twice Amended) An isolated polynucleotide comprising a polynucleotide from a strain of *Chlamydia* selected from the group consisting of:

- C³
- (a) a polynucleotide comprising the nucleotide sequence SEQ ID NO:1;
 - (b) a polynucleotide encoding a polypeptide having a sequence that is at least 75% homologous to SEQ ID NO:2; and
 - (c) a polynucleotide which hybridizes under stringent hybridizing conditions of 6xSSC containing 50% formamide at 42°C with SEQ ID NO:1,

Sub D¹

wherein said isolated polynucleotide, when administered in an immunogenically-effective amount to a mammal, induces an immune response by said mammal against said strain of *Chlamydia*.

2. (Amended) The polynucleotide of claim 1, linked to a second nucleotide sequence encoding a fusion polypeptide.

Sub D²
C⁴

3. (Amended) The polynucleotide of claim 2 wherein the fusion polypeptide is a heterologous signal peptide.

4. (Amended) The polynucleotide of claim 2 wherein the polynucleotide encodes a functional fragment of the polypeptide having the SEQ ID NO: 2.

Sub D³
C⁵

10. An expression cassette, comprising the polynucleotide of claim 1 operably linked to a promoter.

11. An expression vector, comprising the expression cassette of claim 10.

12. A host cell, comprising the expression cassette of claim 10.

C6 Sub D1 13. (Amended) The host cell of claim 10, wherein said host cell is a prokaryotic cell.

C7 Sub D1 14. (Amended) The host cell of claim 12, wherein said host cell is a eukaryotic cell.

C8 Sub D1 16. (Amended) A vaccine vector, comprising the expression cassette of claim 10.

C9 Sub D1 18. (Amended) The vaccine vector of claim 16, wherein said vector is in a pharmaceutically acceptable excipient.

C10 Sub D1 19. (Amended) A pharmaceutical composition, comprising an immunologically effective amount of the vaccine vector of claim 16.

C11 Sub D1 25. (Twice Amended) A polynucleotide probe reagent that detects the presence of *Chlamydia* in a biological material, comprising a polynucleotide that hybridizes with the polynucleotide of claim 1 under stringent hybridizing conditions of 6xSSC containing 50% formamide at 42°C.

C12 Sub D1 26. The polynucleotide probe reagent of claim 25, wherein said reagent is a DNA primer.

C13 Sub D1 38. The host cell of claim 14, wherein said eukaryotic cell is a mammalian cell.

C13 Sub D1 39. The host cell of claim 38, wherein said mammalian cell is a human cell.

Please add new claims 40-44.

C14 Sub D1 -- 40. (New) The isolated polynucleotide of claim 1, wherein the polynucleotide encodes a polypeptide having a sequence that is at least 80% homologous to SEQ ID NO:2.

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41. (New) The isolated polynucleotide of claim 1, wherein the polynucleotide encodes a polypeptide having a sequence that is at least 90% homologous to SEQ ID NO:2.
42. (New) The vaccine vector of claim 16, wherein said vector is a viral live vaccine vector or a bacterial live vaccine vector.
43. (New) The vaccine vector of claim 42, wherein said viral live vaccine vector is selected from the group consisting of: adenoviruses, alphavirus, and poxviruses.
44. (New) The vaccine vector of claim 42, wherein said bacterial live vaccine vector is selected from the group consisting of: *Shigella*, *Salmonella*, *Vibrio cholerae*, *Lactobacillus*, Bacille bilié de Calmette-Guérin, and *Streptococcus*. --